IN THE CLAIMS

What is claimed is:

1. (Currently amended) An electric power steering system, comprising:

a steering wheel in operable communication with a mechanical linkage;

a steering shaft in operable communication with the mechanical linkage, and in operable communication with at least one road wheel;

a first transmission in operable communication with the steering shaft;

a unidirectional electric motor in operable communication with the first transmission;

wherein the electric power steering system is configured such that when the steering wheel is turned in a first direction, the motor's power is transmitted in the first direction to the steering shaft, and when the steering wheel is turned in a second direction, the motor's power is transmitted in the second direction to the steering shaft;

and wherein the mechanical linkage comprises:

a cam.

2. (original) The electric power steering system of claim 1, wherein the unidirectional motor is configured to operate using a constant power source.

3. (original) The electric power steering system of claim 1, further comprising:

a second transmission in operable communication with the steering shaft and in operable communication with the motor; and

wherein the electric power steering system is further configured such that when the steering wheel is turned in a first direction, the motor transmits a power assist in the first direction to the steering shaft via the first transmission, and when the steering wheel is turned in a second direction, the motor transmits a power assist in the second direction to the steering shaft via the second transmission.

4. (canceled).

5. (Original) The electric power steering system of claim 3,

wherein the first transmission comprises:

a first sun gear;

a first planet gear in operable communication with the first sun gear;

a first ring gear in operable communication with the first planet gear;

a steering shaft sleeve in operable communication with the steering shaft;

a first clutch in operable communication with the first ring gear and the steering shaft sleeve and configured to transmit rotative energy from the first ring gear to the steering shaft sleeve; and

wherein the second transmission comprises:

a second sun gear;

a second planet gear in operable communication with the second sun gear;

a second ring gear in operable communication with the second planet gear;

a steering shaft sleeve in operable communication with the steering shaft; and

a second clutch in operable communication with the second ring gear and the steering shaft sleeve and configured to transmit rotative energy from the second ring gear to the steering shaft sleeve.

6. (canceled)

7. (canceled)

8. (canceled).

9. (canceled)

10. (canceled)

11 (canceled)

12 (canceled)

13. (canceled)

14. (canceled)

15. (Currently amended) The electric power steering system of claim 1, wherein the mechanical linkage further comprises:

a torsion bar.

16. (canceled)

17. (Currently amended) The electric power steering system of claim 1, wherein the ~~mechanical linkage~~ cam comprises:

a ball in a helical groove.

18. (Currently amended) The electric power steering system of claim 1, wherein the ~~mechanical linkage~~ cam comprises:

a 4-bar linkage.

19. (Currently amended) The electric power steering system of claim 1, wherein the ~~mechanical linkage~~ cam comprises:

a ball screw.

20. (Original) An electric power steering system, comprising:

a steering wheel in operable communication with at least one road wheel;

a first transmission in operable communication with the at least one road wheel;

a unidirectional electric motor in operable communication with the first transmission;

wherein the electric power steering system is configured such that when the steering wheel is turned in a first direction, the motor's power is transmitted in the first direction to the at least one road wheel, and when the steering wheel is turned in a second direction, the motor's power is transmitted in the second direction to at least one road wheel.

21. (Original) The electric power steering system of claim 20, further comprising: a torsion bar in operable communication with the steering wheel and the at least one road wheel; and wherein the electric power steering system is configured such that when the steering wheel is turned, the transmitted motor's power is proportional to a windup of the torsion bar.

22. (canceled).

23. (canceled)

24. (canceled)

25. (canceled)

26. (Currently amended) An electric power steering system, comprising:

a steering wheel in operable communication with a mechanical linkage;

a steering shaft in operable communication with the mechanical linkage, and in operable communication with at least one road wheel;

a first transmission in operable communication with the steering shaft;

a unidirectional electric motor in operable communication with the first transmission;

wherein the electric power steering system is configured such that when the steering wheel is turned in a first direction, the motor's power is transmitted in the first direction to the steering shaft, and when the steering wheel is turned in a second direction, the motor's power

is transmitted in the second direction to the steering shaft; and

~~The electric power steering system of Claim 1~~ wherein the first transmission includes a first planetary gear in operable communication with the motor and a first clutch in operable communication with the first planetary gear, wherein the first clutch is configured to transmit rotative energy from the first planetary gear to a steering shaft sleeve.

27. (Previously presented) The electric power steering system of claim 26 further comprising a second transmission including a second planetary gear in operable communication with the motor and a second clutch in operable communication with the second planetary gear, wherein the second clutch is configured to transmit rotative energy from the second planetary gear to the steering shaft sleeve.

28. (Previously presented) The electric power steering system of claim 27 further comprising a gear system positioned between the motor and the second planetary gear, wherein the gear system changes rotation input in a first direction to an output rotation in an opposite direction from the first direction.

29. (Previously presented) The electric power steering system of claim 27 wherein the steering shaft and steering shaft sleeve are axially movable and the first and second planetary gears and the motor are axially stationary.

30. (Previously presented) The electric power steering system of claim 3 further comprising a first clutch in communication with the first transmission and a second clutch in communication with the second transmission.

31. (Previously presented) The electric power steering system of claim 30 further comprising a steering shaft sleeve in operable communication with the steering shaft and in communication with the first clutch and the second clutch, wherein rotatitive energy from the first transmission is transmitted to the steering shaft sleeve through the first clutch, and wherein rotative energy from the second transmission is transmitted to the steering shaft

sleeve through the second clutch.

32. (Previously presented) The electric power steering system of claim 3 further comprising a gear system operably positioned between the motor and the second transmission, wherein the gear system changes rotation input in a first direction to an output rotation in an opposite direction from the first direction.

33. (Currently amended) A steering system comprising:

a steering shaft;

a first transmission in operable communication with the steering shaft;

a second transmission in operable communication with the steering shaft;

a motor in operable communication with both the first transmission and the second transmission; and,

a gear system operably positioned between the second transmission and the motor, wherein the gear system changes rotation input in a first direction to an output rotation in an opposite direction from the first direction and wherein the first transmission includes a first planetary gear and the second transmission includes a second planetary gear.

34. (Previously presented) The steering system of claim 33 further comprising a first clutch in operable communication with the first transmission and configured to transmit rotative energy from the first transmission to the steering shaft, and a second clutch in operable communication with the second transmission and configured to transmit rotative energy from the second transmission to the steering shaft.

35. (canceled)

36. (canceled)

37. (Previously presented) The steering system of claim 33 wherein, when a steering wheel associated with the steering system is turned in a first direction, the motor transmits a power assist in the first direction to the steering shaft via the first transmission, and when the steering wheel is turned in a second direction, the motor transmits a power assist in the second direction to the steering shaft via the second transmission.

38. (new) A steering system comprising:

a steering shaft;

a first transmission in operable communication with the steering shaft;

a second transmission in operable communication with the steering shaft;

a motor in operable communication with both the first transmission and the second transmission; and,

a gear system operably positioned between the second transmission and the motor, wherein the gear system changes rotation input in a first direction to an output rotation in an opposite direction from the first direction;

wherein the first and second planetary gears each include a sun gear, a planet gear, and a ring gear.

39. (new) The steering system of claim 38 further comprising a first clutch in operable communication with the first transmission and configured to transmit rotative energy from the first transmission to the steering shaft, and a second clutch in operable communication with the second transmission and configured to transmit rotative energy from the second transmission to the steering shaft.

40. (new) The steering system of claim 38 wherein, when a steering wheel associated with the steering system is turned in a first direction, the motor transmits a power assist in the first direction to the steering shaft via the first transmission, and when the steering wheel is turned in a second direction, the motor transmits a power assist in the second direction to the steering shaft via the second transmission.

41. (new) An electric power steering system, comprising:

a steering wheel in operable communication with a mechanical linkage;

a steering shaft in operable communication with the mechanical linkage, and in operable communication with at least one road wheel;

a first transmission in operable communication with the steering shaft;

a unidirectional electric motor in operable communication with the first transmission;

wherein the electric power steering system is configured such that when the steering wheel is turned in a first direction, the motor's power is transmitted in the first direction to the steering shaft, and when the steering wheel is turned in a second direction, the motor's power is transmitted in the second direction to the steering shaft.